From: Colin Peirce

Sent: Wednesday, May 15, 2019 06:26 PM

To: Mia, Marcia; Casey MacQueen

CC: Hoyt, Daniel; Williams, Christopher; Cox, John; OCE-CAA; Mike Pring

Subject: Low Production Well Analysis

Attachments: 0000a Reports Evaluation ERG 2019-05-15.xlsx

ENFORCEMENT CONFIDENTIAL

Marcia - the low production well analysis is attached. We have separate tabs for the low production wells and the non low production wells, and the invalid/unmatched wells. There is also a results overview tab to help summarize the analysis.

I am out of the office until June 3 (wedding and honeymoon time!) but Casey will be available for any questions. Thank you again for your patience!

Colin Peirce

571-403-9884

2305 Historic Decatur Rd. Suite 100

San Diego, CA 92106

Regular availability: Monday through Friday, 8:00 AM PT to 4:00 PM PT. Please send me an email if you need to meet outside those times.

From: Colin Peirce <Colin.Peirce@erg.com>

Sent: Tuesday, May 14, 2019 09:40

To: Mia, Marcia <Mia.Marcia@epa.qov>; Casey Pickering <Casey.Pickering@erg.com>

Cc: Hoyt, Daniel <Hoyt.Daniel@epa.gov>; Williams, Christopher
<Williams.Christopher@epa.gov>; Cox, John <cox.john@epa.gov>

Subject: RE: Copy of OOOOa Reports Evaluation mbm R8 r7.xlsx

Hi Marcia - sorry but I've underestimated the level of QC needed for this spreadsheet. We anticipate completing the review tomorrow and sending out the spreadsheet as soon as we're done.

Colin Peirce

571-403-9884

2305 Historic Decatur Rd. Suite 100

San Diego, CA 92106

Regular availability: Monday through Friday, 8:00 AM PT to 4:00 PM PT. Please send me an email if you need to meet outside those times.

From: Colin Peirce <Colin.Peirce@erg.com>

Sent: Thursday, May 9, 2019 16:57

To: Mia, Marcia <Mia.Marcia@epa.gov>; Casey Pickering <Casey.Pickering@erg.com>

Cc: Hoyt, Daniel <Hoyt.Daniel@epa.gov>; Williams, Christopher
<Williams.Christopher@epa.gov>; Cox, John <cox.john@epa.gov>

Subject: RE: Copy of OOOOa Reports Evaluation mbm R8 r7.xlsx

Hi Marcia - we've finished the first draft of the spreadsheet and now we're reviewing it internally. The spreadsheet involves 50-100 separate formulas so we want to make sure we haven't made any mistakes anywhere that would throw off the numbers. We'll deliver the final spreadsheet no later than next Tuesday, earlier if possible.

Colin Peirce

571-403-9884

2305 Historic Decatur Rd. Suite 100

San Diego, CA 92106

Regular availability: Monday through Friday, 8:00 AM PT to 4:00 PM PT. Please send me an email if you need to meet outside those times.

From: Colin Peirce <Colin.Peirce@erg.com>

Sent: Tuesday, May 7, 2019 19:37

To: Mia, Marcia <Mia.Marcia@epa.qov>; Casey Pickering <Casey.Pickering@erg.com>

Cc: Hoyt, Daniel <Hoyt.Daniel@epa.gov>; Williams, Christopher
<Williams.Christopher@epa.gov>; Cox, John <cox.john@epa.gov>

Subject: RE: Copy of OOOOa Reports Evaluation mbm R8 r7.xlsx

Hi Marcia - thanks for the final set of Well IDs. I'm digging into the full data set tomorrow. We'll aim for delivery this week but that might bet a little tight - we'll send an update tomorrow.

Colin Peirce

571-403-9884

2305 Historic Decatur Rd. Suite 100

San Diego, CA 92106

Regular availability: Monday through Friday, 8:00 AM PT to 4:00 PM PT. Please send me an email if you need to meet outside those times.

From: Mia, Marcia <Mia.Marcia@epa.gov>

Sent: Tuesday, May 7, 2019 13:28

To: Casey Pickering <Casey.Pickering@erg.com>; Colin Peirce <Colin.Peirce@erg.com>

Cc: Hoyt, Daniel <Hoyt.Daniel@epa.gov>; Williams, Christopher
<Williams.Christopher@epa.gov>; Cox, John <cox.john@epa.gov>

Subject: FW: Copy of OOOOa Reports Evaluation mbm R8 r7.xlsx

Here is the last of the well ids. Pls note Cindy's note to use the Avg Survey Time tab.

Thanks! Is there anyway we might get this completed by the end of this week?

Marcia B Mia

Air Branch

Office of Compliance

2227A WJCS

U.S. Environmental Protection Agency

202-564-7042

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From: Beeler, Cindy

Sent: Tuesday, May 07, 2019 9:12 AM
To: Mia, Marcia < Mia. Marcia@epa.gov>

Subject: FW: Copy of OOOOa Reports Evaluation mbm R8 r7.xlsx

Marcia -

Here is rev.7 ... Muhamed has completed all the R8 reports. We seem to have a bit of tidying up to do on worksheet 'Production' as the formula in the 'Site Name' column, ran out and it looks like Muhamed started re-inputting site names so they now do not match row-by-wow between the 'Avg Survey Time' worksheet and the 'Production' worksheet. All the sites with their associated Well IDs are in 'Avg Survey time'

worksheet.

Cindy Beeler

US EPA Region 8

Tel: 303-312-6204

Beeler.Cindy@epa.gov

Green Dot

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From: Beeler, Cindy

Sent: Tuesday, April 30, 2019 1:33 PM

To: Mia, Marcia <Mia.Marcia@epa.gov>

Subject: FW: Copy of OOOOa Reports Evaluation_mbm_R8_r6.xlsx

Marcia -

I wanted to keep your contractor up to-speed as possible as our high school intern works his way through data mining and populating the attached workbook (r6).

r6 vs. r5 (sent 4/25 below and attached again here):

Muhamed has continued populating # leaks from rows 1175 (Facility = Arnegard CTB) in r5 through row 1469 (Facility = STAGHORN PETROLEUM-WARDROOM 19-13-12 1H)

r5 vs. r4 (sent 4/9 below and attached again here):

Muhamed has continued populating # leaks from rows 586 (Facility = Horns Pad) in r4 through row 1174 (Facility = Anderson CTB)

Cindy Beeler

US EPA Region 8

Tel: 303-312-6204

Beeler.Cindy@epa.gov

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From: Beeler, Cindy

Sent: Thursday, April 25, 2019 1:00 PM

To: Mia, Marcia <Mia.Marcia@epa.gov>

Subject: Copy of OOOOa Reports Evaluation mbm R8 r5.xlsx

Marcia -

I wanted to keep your contractor up to-speed as possible as our high school intern works his way through data mining and populating the attached workbook (r5).

r5 vs. r4 (sent 4/9 below and attached again here):

Muhamed has continued populating # leaks from rows 586 (Facility = Horns Pad) in r4 through row 1174 (Facility = Anderson CTB)

Cindy Beeler

US EPA Region 8

Tel: 303-312-6204

Beeler.Cindy@epa.gov

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From: Beeler, Cindy

Sent: Tuesday, April 9, 2019 11:37 AM

To: Mia, Marcia <Mia.Marcia@epa.gov>

Subject: FW: TO POLISH RE: Copy of OOOOa Reports Evaluation mbm_R8_r3.xlsx

Marcia - Here is the workbook (r4) that should have progressed much since the last one sent to include # leaks \dots I've not reviewed yet, but wanted to get to you asap.

Cindy Beeler

US EPA Region 8

Tel: 303-312-6204

Beeler.Cindy@epa.gov

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From: Beeler, Cindy

Sent: Wednesday, March 27, 2019 12:26 PM

To: 'Muhamed Abdalhafez.STP' <Muhamed.Abdalhafez.STP@scienceandtech.org>

Cc: Loiacono, Sara <loiacono.sara@epa.gov>

Subject: TO POLISH RE: Copy of OOOOa Reports Evaluation mbm R8 r3.xlsx

***** I AM ON VACATION 4/1-4/8 so SARA LOIACONO (303-312-6626) WILL BE YOUR CONTACT IN MY ABSENCE ... Either of you can call me at 303-517-1787 if you have questions *******

Muhamed -

I hope you had a great Spring Break! I talked with HQ and we're missing a critical piece of information which I explain below.

Thanks for the workbook and your latest changes. Please use this attached file for continued work - I've moved some wells to individual columns (vs. all in the same column ... the more I look at this, the further examples I see of all wells not being input to separate Well ID columns so that needs to be cleaned up) and cleaned up formatting.

I can see now, too, that on the "Production" worksheet, there is a column we missed that is important to this analysis - 'Number of leaks' (those will have to be counted manually). Not all leak surveys found leaks, so then 'Number of leaks' would be left blank.

To mine the important 'Number of leaks' and add it to our attached file (Copy of OOOOa Reports Evaluation_mbm_R8_r3.xlsx), you'll need to go back into each operator report and find that piece of information and add it to Copy of OOOOa Reports Evaluation_mbm_R8_r3.xlsx. FYI - this workbook is organized in the same order as you input each row (so, 50 Buttes, Anadarko, Bayswater, etc.).

I explain this below using "Anadarko_Part 60 Subpart 0000a - 60.5420a(b) Annual Report (CEDRI Format).xlsx" as an example:

From the "Fugitive Emissions Component" worksheet in the operator report files, count the # of leaks found (i.e. 'emissions detected' in Column M). For example, see the report file from Anadarko and the Facility "LOCHBUIE 4C 30C-13" on their 12/01/2017 survey:

So, now you go back in the attached workbook (Copy of OOOOa Reports Evaluation_mbm_R8_r3.xlsx) and find the particular Facility (LOCHBUIE 4C 30C-13 and the corresponding 'Date of Survey' \dots and add in the 'Number of Leaks'

```
... in the case of Facility "LOCHBUIE 4C 30C-13" on the 12/01/2017 survey, it is 1+1=2:
```

... in the case of Facility "LOCHBUIE 4C 30C-13" on the 06/09/2018 survey, it is 1+1+1+1+1=5:

To find the facility in Copy of OOOOa Reports Evaluation_mbm_R8_3.xlsx, you can use the 'Find' function in Xcel:

Muhamed - I cannot find the 2nd LOCHBUIE 4C 30C-13, 06/09/18 survey in the attached workbook???

ALSO - if the emissions detected are from a 'Thief Hatch' (remember the opening on top of the storage tanks?) please indicate "Y" in the Column R, "Leak from Thief Hatch?"

Cindy Beeler

US EPA Region 8

Tel: 303-312-6204

Beeler.Cindy@epa.gov

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From: Muhamed Abdalhafez.STP < Muhamed.Abdalhafez.STP@scienceandtech.org>

Sent: Friday, March 22, 2019 8:20 AM

To: Beeler, Cindy <Beeler.Cindy@epa.gov>

Subject: Copy of OOOOa Reports Evaluation mbm R8.xlsx